

# Eddystone

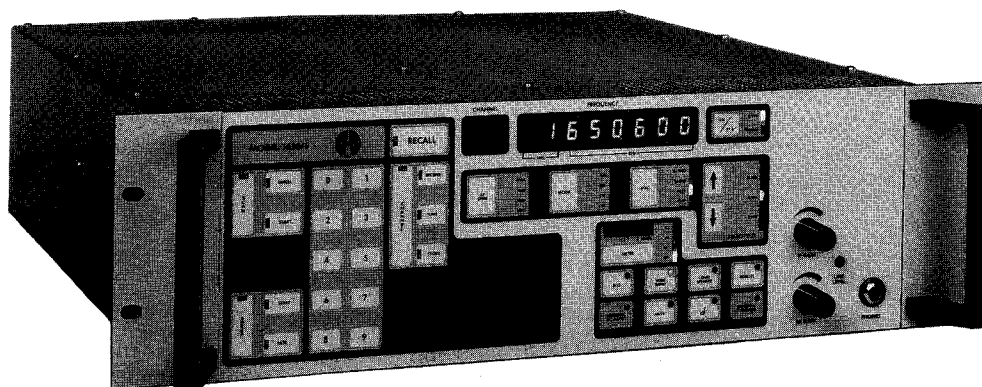
1650/6  
RECEIVER

PART 2

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## INSTALLATION NOTES OPERATING INSTRUCTIONS AND SERVICE DATA

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## Eddystone Radio

A MARCONI COMMUNICATION SYSTEMS COMPANY



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# 1650/6 HANDBOOK INDEX

- PART 2 -

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## PCB ILLUSTRATIONS (Light Green Pages)

PCB Ref.	Title	Viewing Face
2	Input Low Pass Filter Board.	Both
7	RF and 1st IF Board.	Wiring
7	RF and 1st IF Board.	Component
8	Synthesiser Board.	Wiring
8	Synthesiser Board.	Component
9	VCO Board.	Both
10	Main IF/Audio Board.	Wiring
10	Main IF/Audio Board.	Component
11	Front Panel Display Board.	Wiring
11	Front Panel Display Board.	Component
12	Interface Board.	Wiring
12	Interface Board.	Component
13	Microcomputer Board.	Wiring
13	Microcomputer Board.	Component
14	Power Supply Board.	Both
16	Front Panel Test Box Board.	Wiring
17	VCO Test Box Board.	Wiring

CIRCUIT DIAGRAMS  
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Cct. Ref.	Module Title	Drg. No.
1	CHASSIS INTERCONNECTIONS & MISC. MODULES	BP2021
2	INPUT LOW PASS FILTER	BP2021
3	Not Allocated	
4	Not Allocated	
5	Not Allocated	
6	Not Allocated	
7	RF & 1st IF BOARD	BP1968
8	SYNTHESISER AND VCO BOARD	BP1828
9	VCO CIRCUIT	BP1828
10	MAIN IF/AUDIO BOARD	BP1827
11	FRONT PANEL DISPLAY BOARD	BP1975
12	INTERFACE BOARD	BP2025
13	MICROCOMPUTER BOARD	BP1556
14	POWER SUPPLY BOARD	BP2021
	RX SIGNAL CIRCUITS BLOCK DIAGRAM	BP2022
	RX SYNTHESISER CIRCUITS BLOCK DIAGRAM	BP2023
	RX CONTROL AND MCU CIRCUITS BLOCK DIAGRAM	BP2042
	SIMPLIFIED EXECUTIVE PROGRAM FLOWCHART	BP2024
15	1650/6/D6245 ANCILLARIES TEST BOX	BP2019
16	1650/6/D6247 FRONT PANEL TEST BOX	BP2038
17	1650/6/D6248 VCO TEST BOX	BP2037
18	1650/6/D6249 1.4MHz IF I/P PAD	BP2039
19	1650/6/D6250 REMOTE BREAKOUT BOX	BP2036

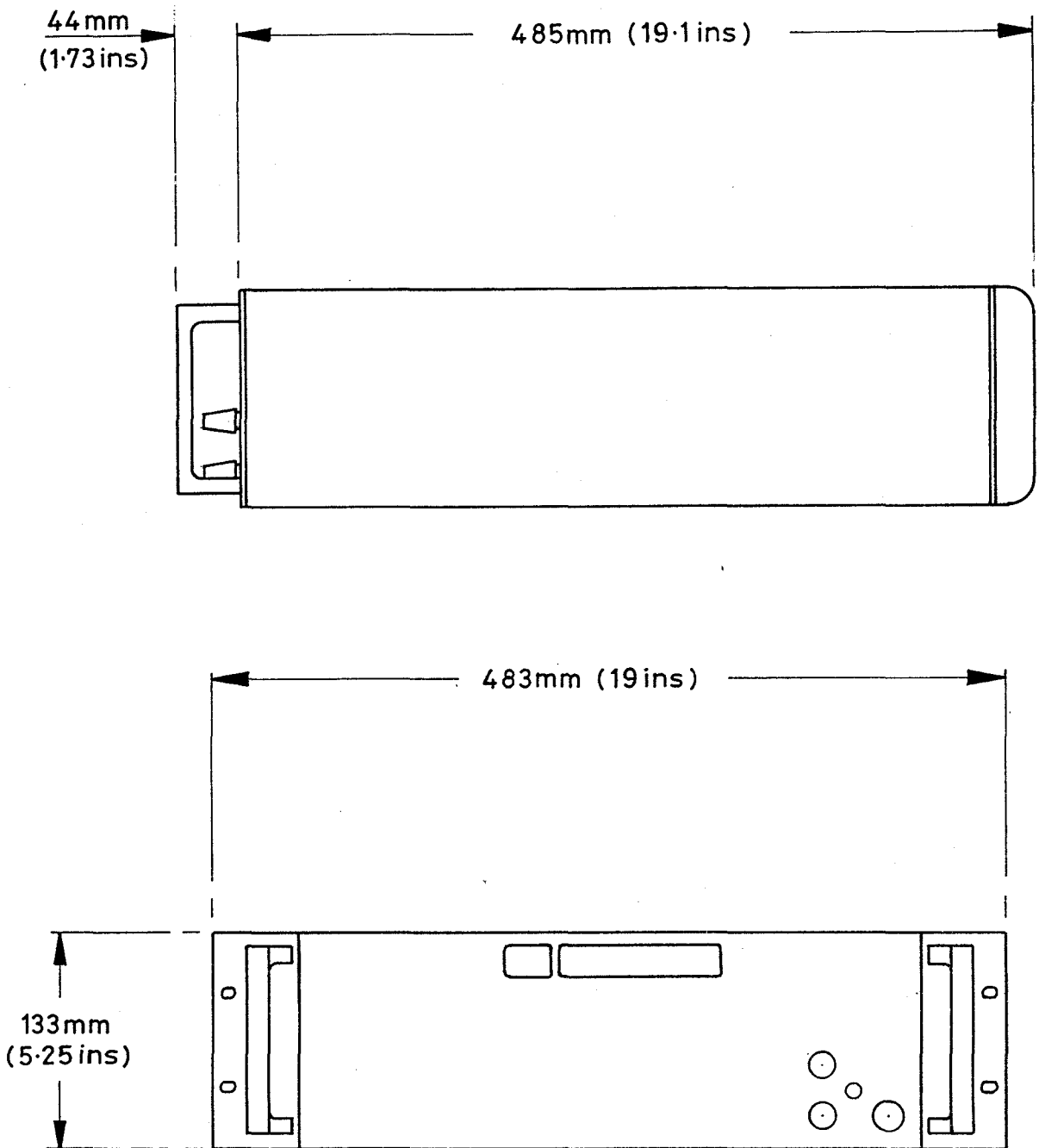
CONTROL AND CONNECTOR LAYOUTS  
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1650/6 RECEIVER FRONT PANEL LAYOUT	BP2028
1650/6 RECEIVER REAR PANEL LAYOUT	BP2029

APPENDIX B (Dark Green Pages)

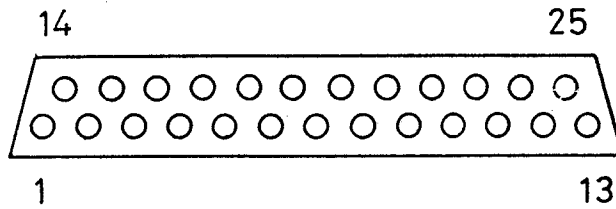
B.1 EXTENDER CABLES AND FITTINGS (use).....	Page 1
B.2 EXTENDER CABLES AND FITTINGS (parts).....	Page 1

First Edition.....1650/6 Handbook Part 2. May 1988.



Dimensions of Receiver

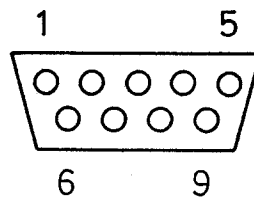
Figure 2.1



VIEW INTO 25 WAY FEMALE CONNECTOR

ANCILLARIES Connector

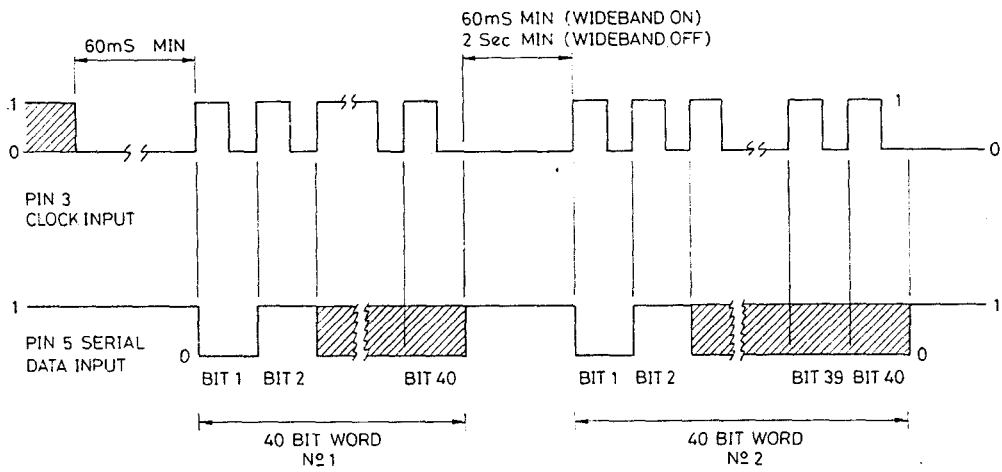
Figure 2.2



VIEW INTO 9 WAY MALE CONNECTOR

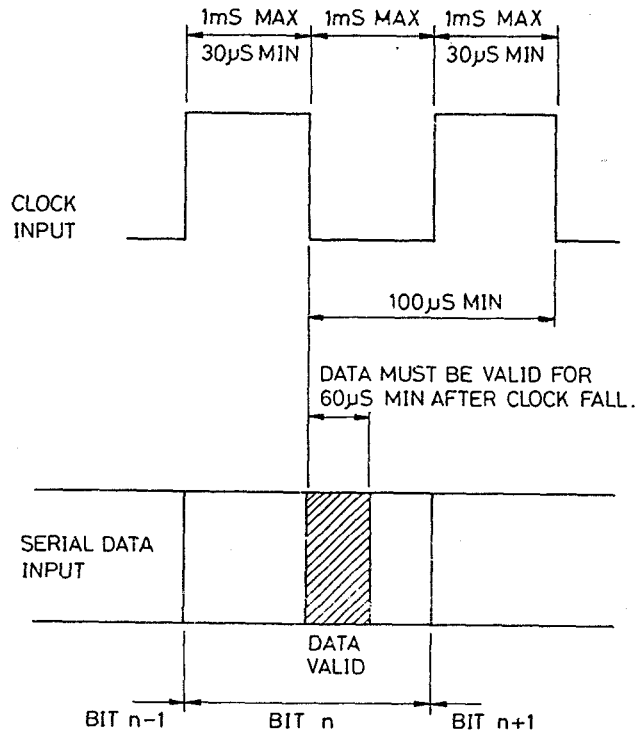
REMOTE Connector

Figure 2.3



Data Inputs





Figure 3.2

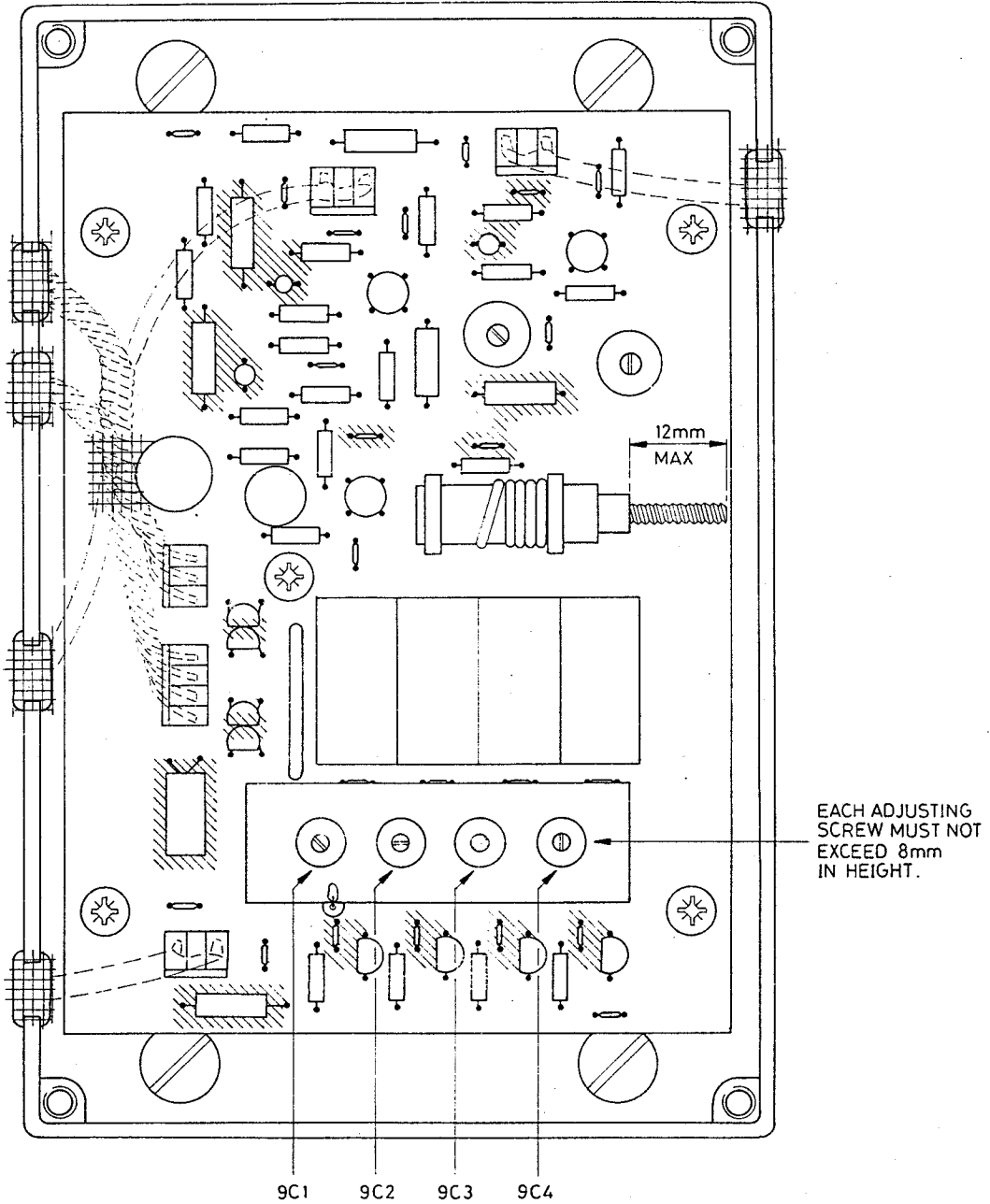


Individual Bit Timing

Figure 3.3

KEY

-  DOW CORNING 'SILASTIC' RTV SILICONE RUBBER COMPOUND - 738 OR BOSTIK EMHART THERMOGRIP 9951 GLUESTICK
-  CIBA-GEIGY ARALDITE EPOXY-RESIN ADHESIVE STANDARD PACK
-  } WIRING
-  }

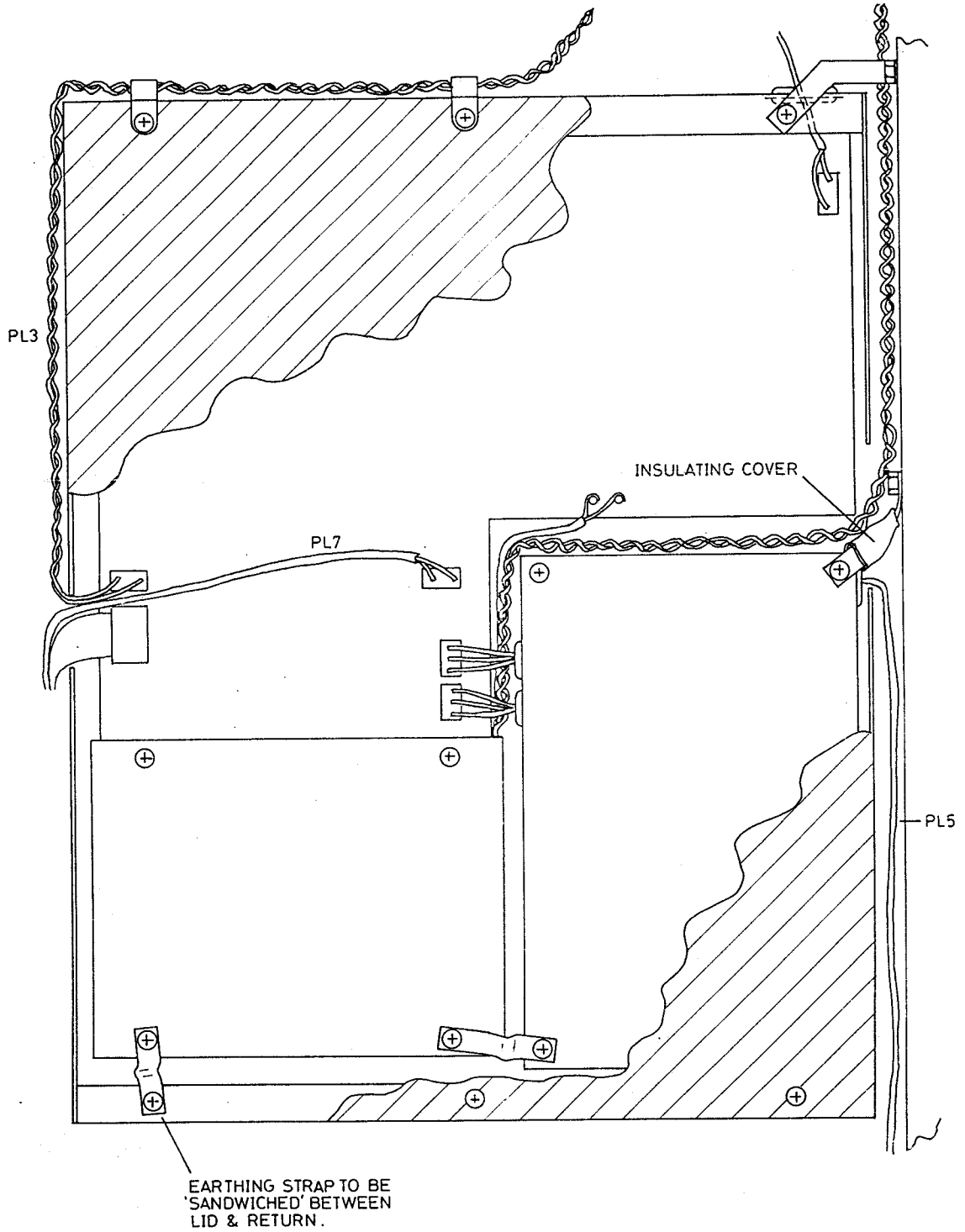


VCO BOARD DETAILS

VCO Board Details

Figure 5.1

NOTE - PART VIEW OF LID  
SHOWN BY HATCHING.

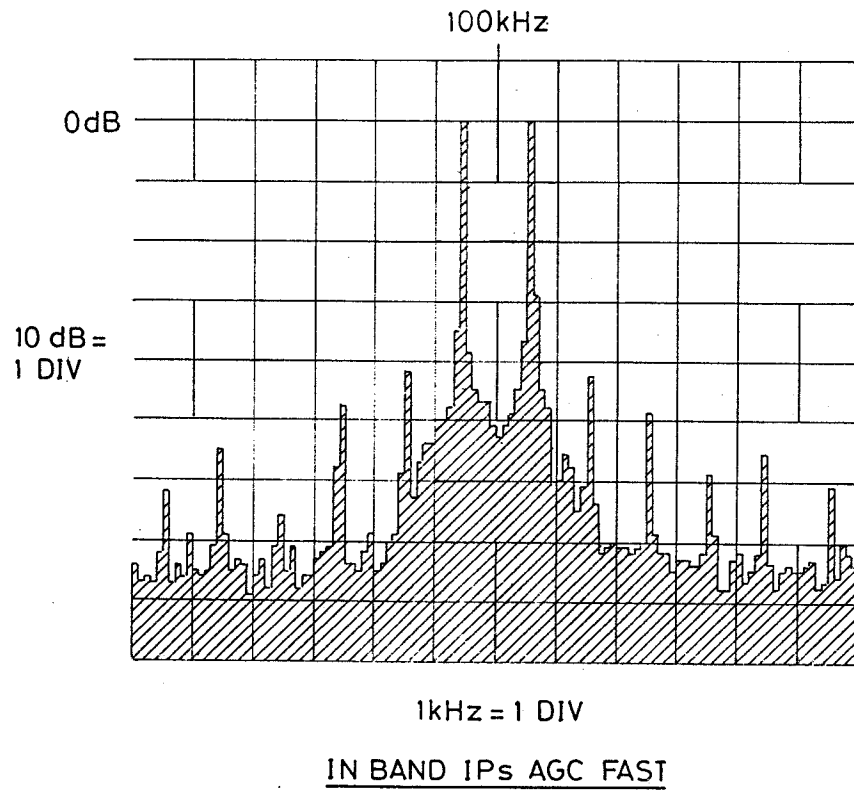
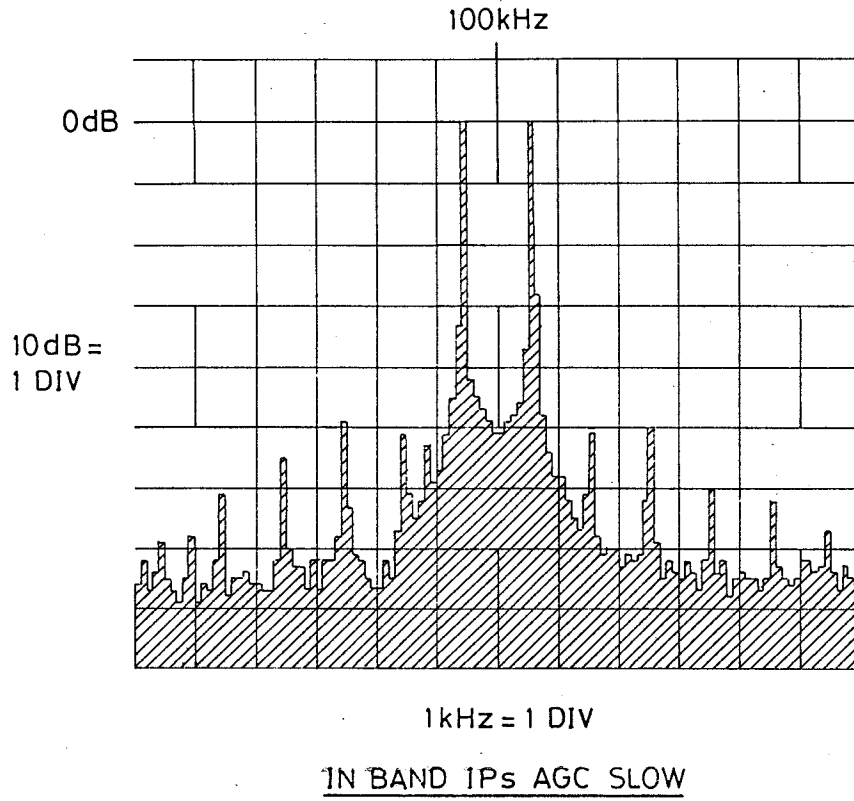


Earth Strap/Wiring Position in Synthesiser Box

Figure 5.2



MARCONI TF2370 SPECTRUM ANALYSER

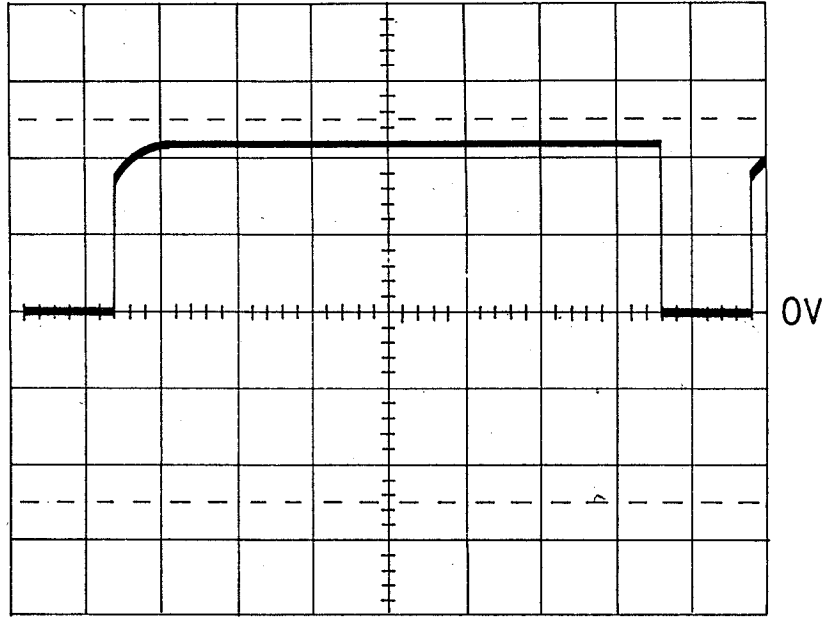


In-Band Intermodulation Products (IF O/P)

Figure 5.3

TEKTRONIX 485

2V = 1cm



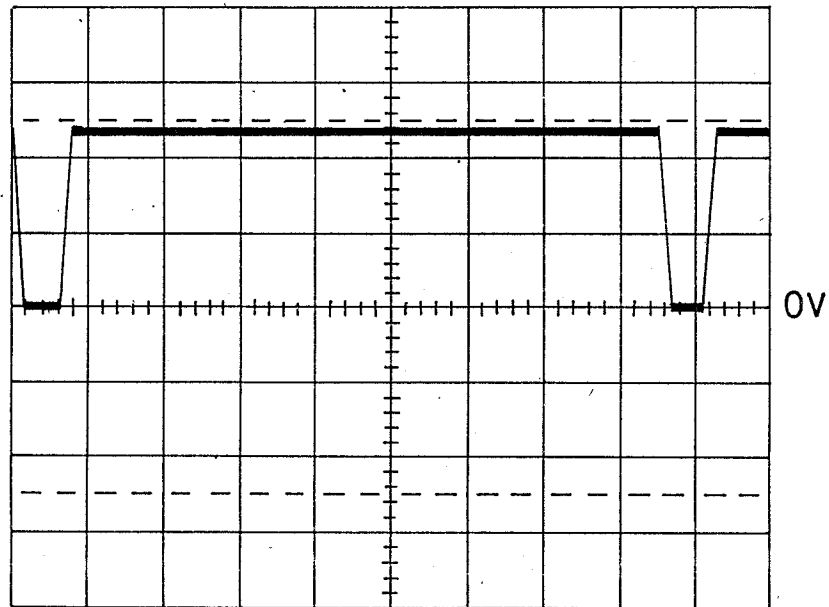
1 $\mu$ S = 1cm

Address Strobe Test (1)

Figure 5.4

TEKTRONIX 485

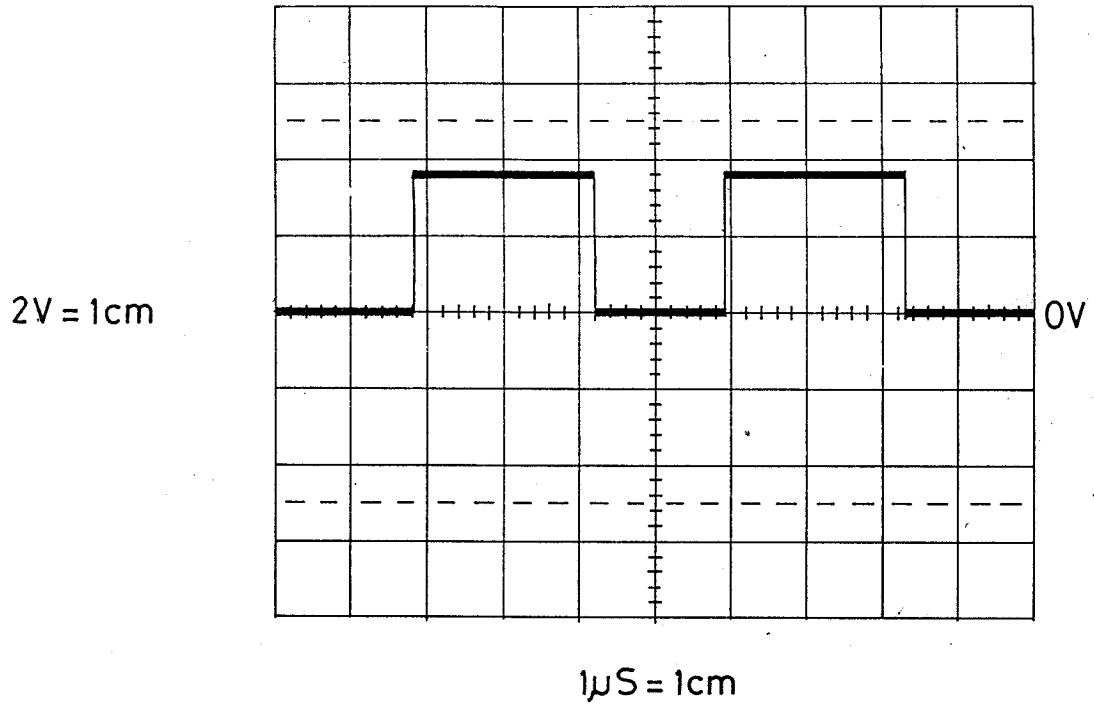
2V = 1cm



1 $\mu$ S = 1cm

Address Strobe Test (2)

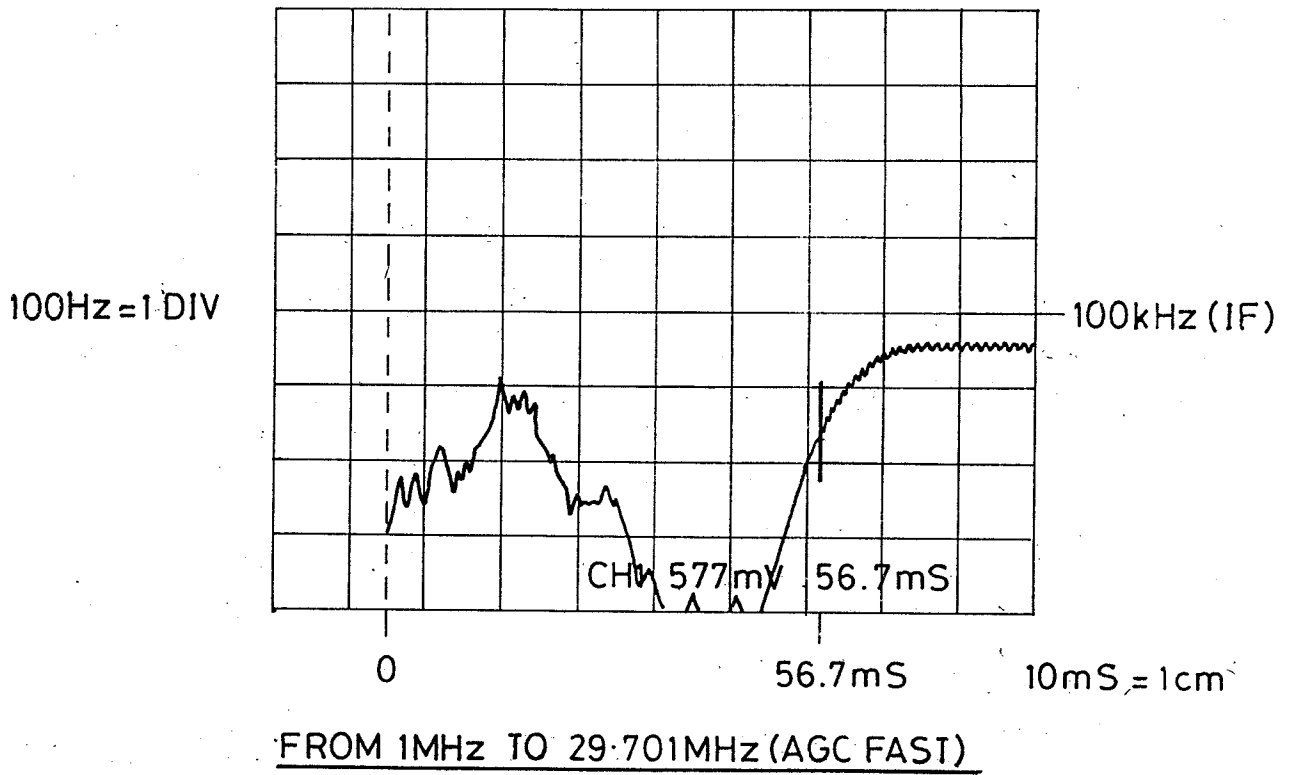
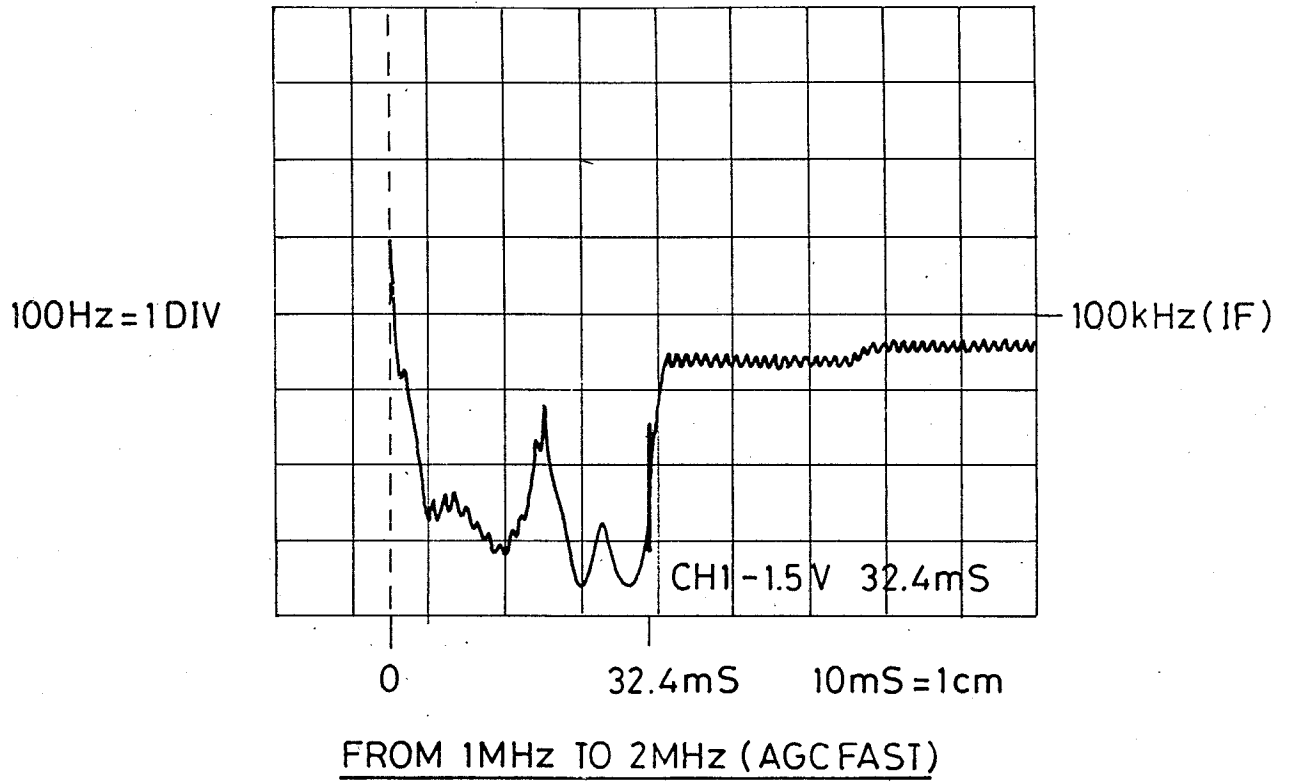
Figure 5.5



Output Control Test

Figure 5.6

GOULD 1425 DIGITAL STORAGE OSCILLOSCOPE

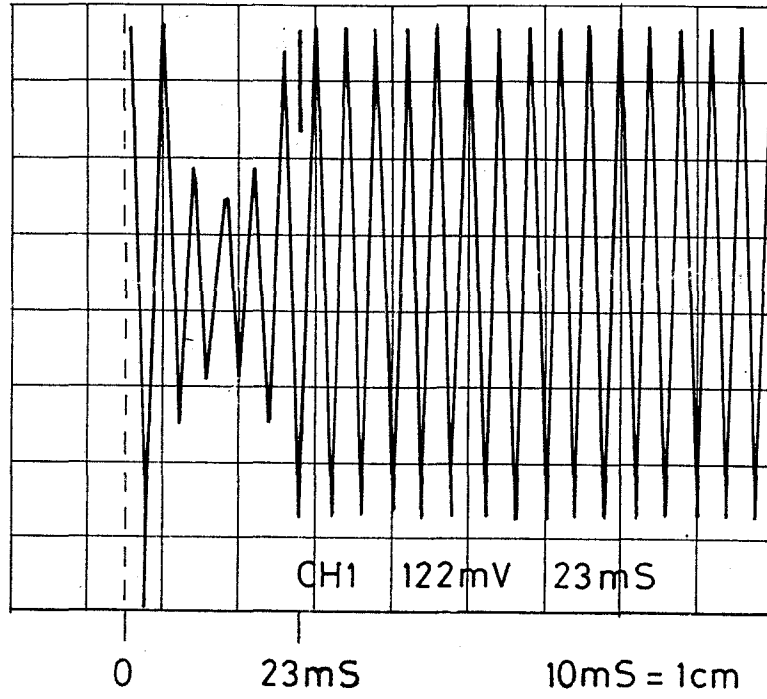


Remote Switching Time

Figure 5.7

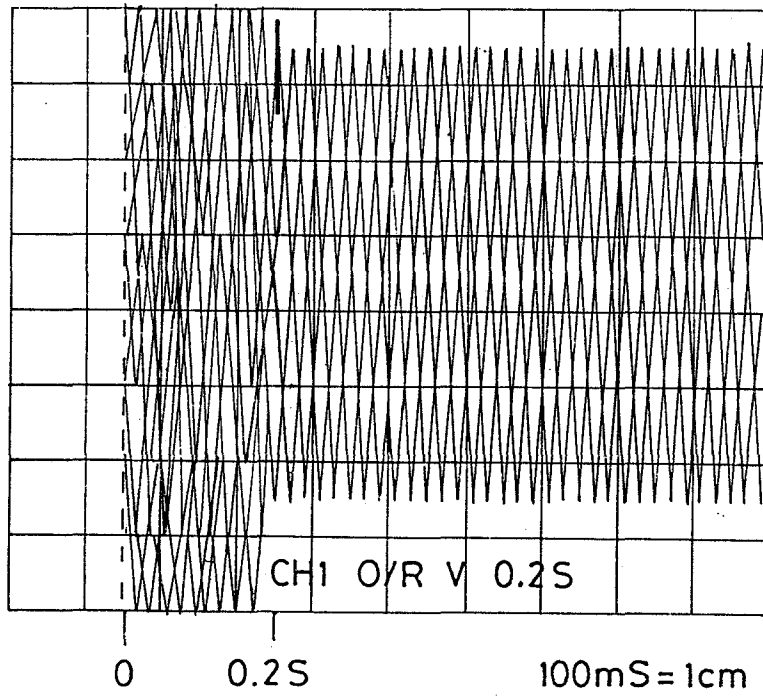
GOULD 1425 DIGITAL STORAGE OSCILLOSCOPE

100mV = 1cm



AGC FAST ATTACK

100mV = 1cm

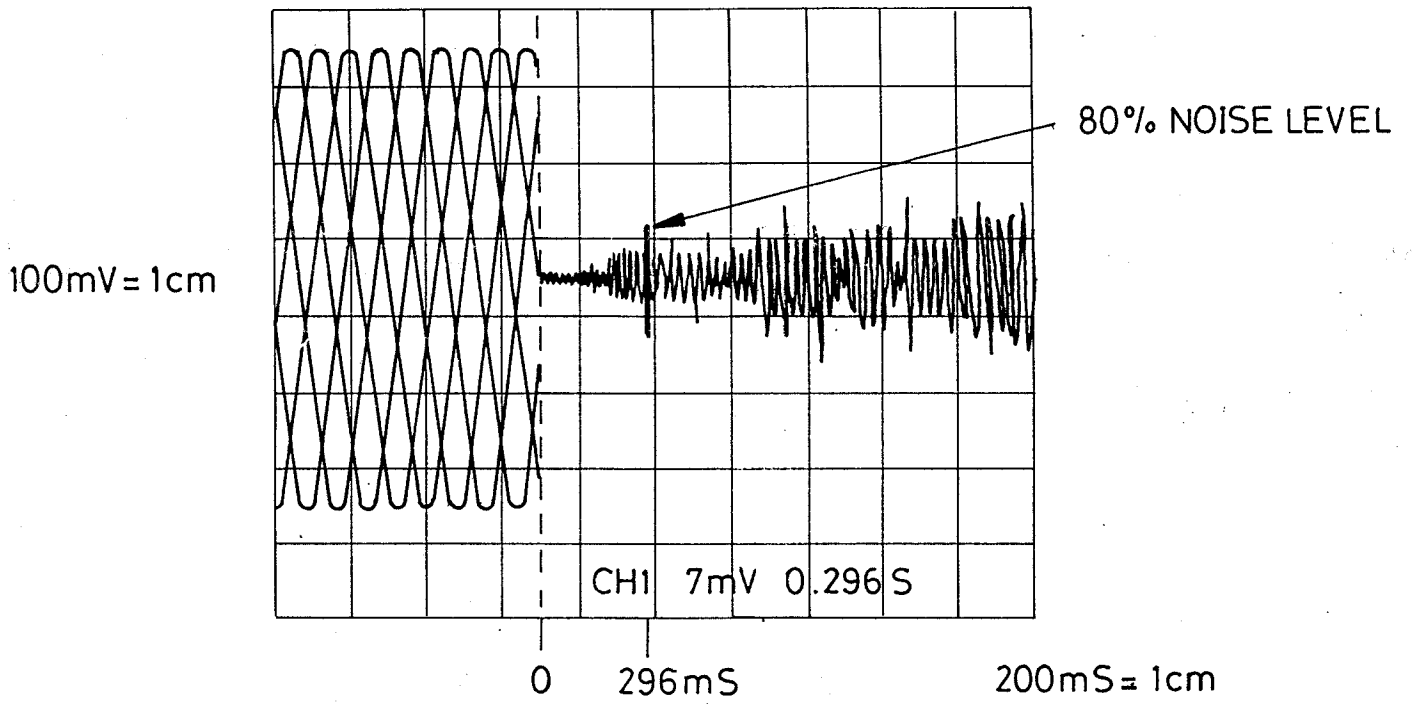


AGC SLOW ATTACK

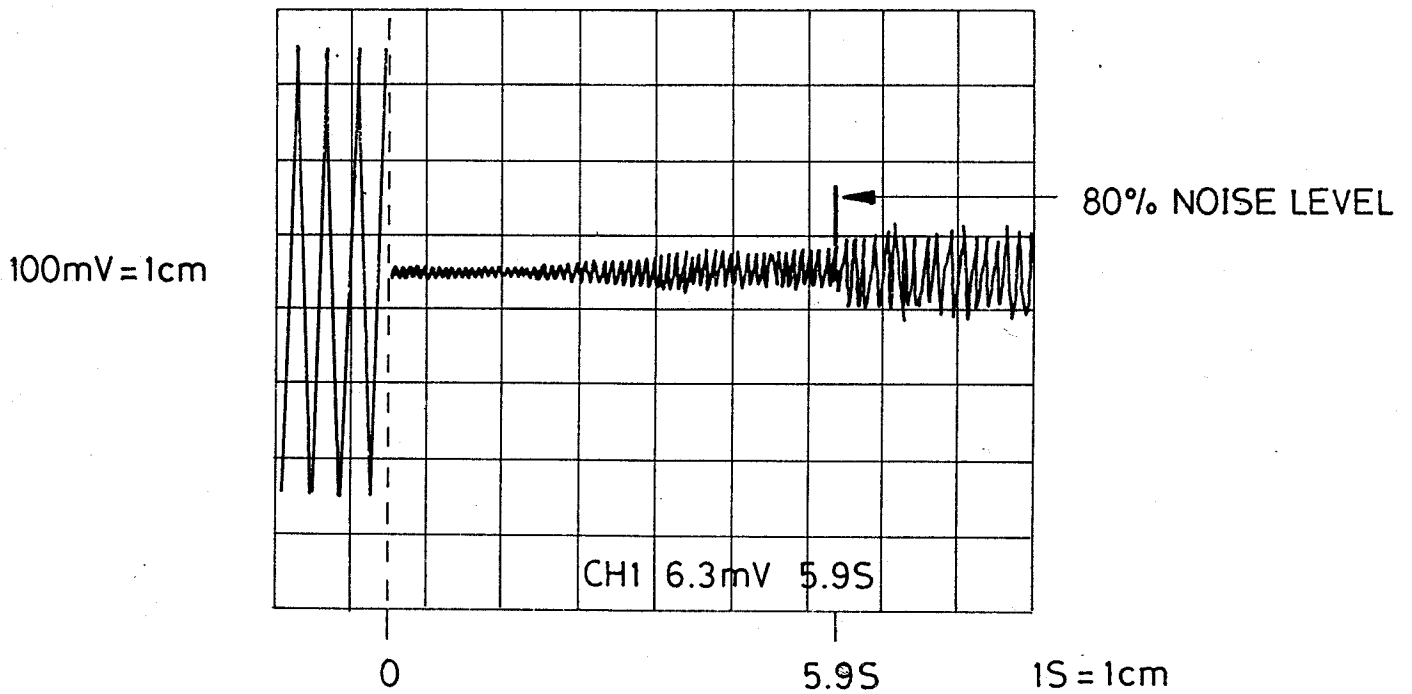
AGC Attack Time

Figure 5.8

GOULD 1425 DIGITAL STORAGE OSCILLOSCOPE



AGC FAST DECAY

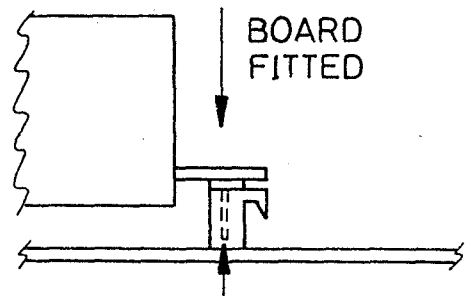
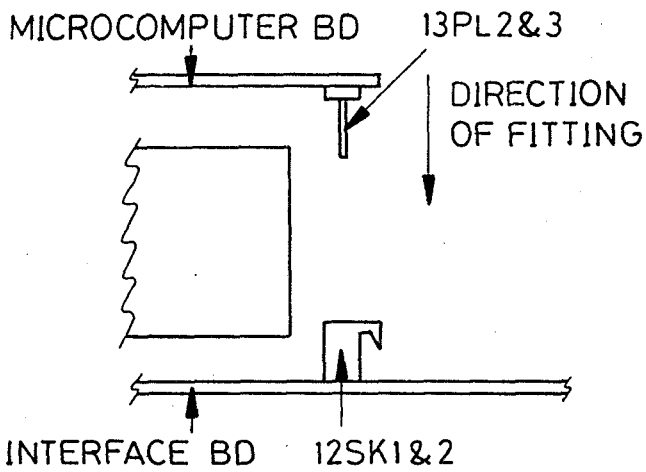
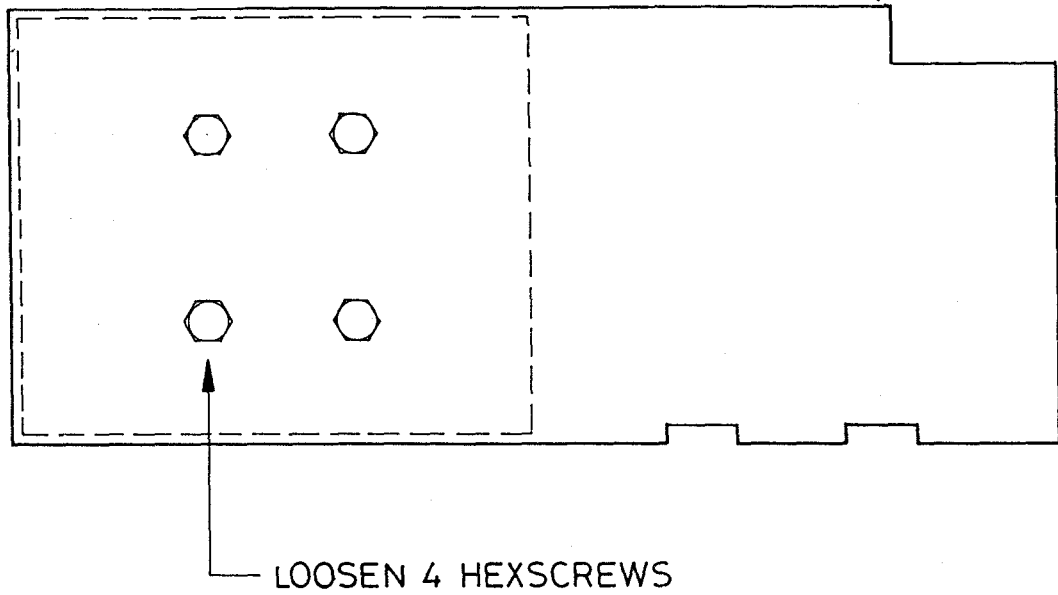


AGC SLOW DECAY

AGC Decay Time

Figure 5.9

UNDERSIDE OF INTERFACE BOARD



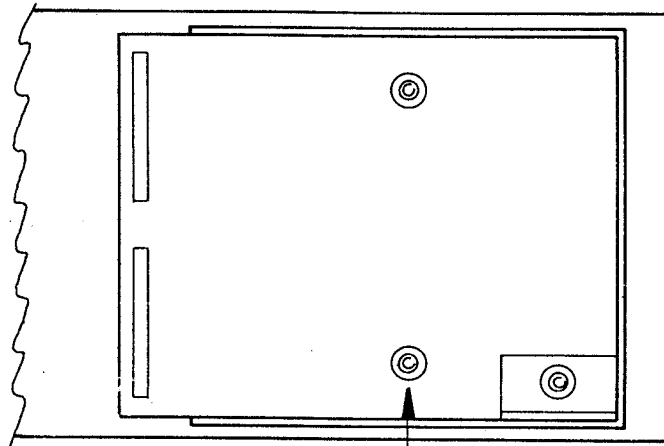
IMPORTANT - PINS & CONNECTORS  
MUST BE AT RIGHT  
ANGLES TO INTERFACE  
BOARD.

SIDE VIEW

Microcomputer Alignment (1)

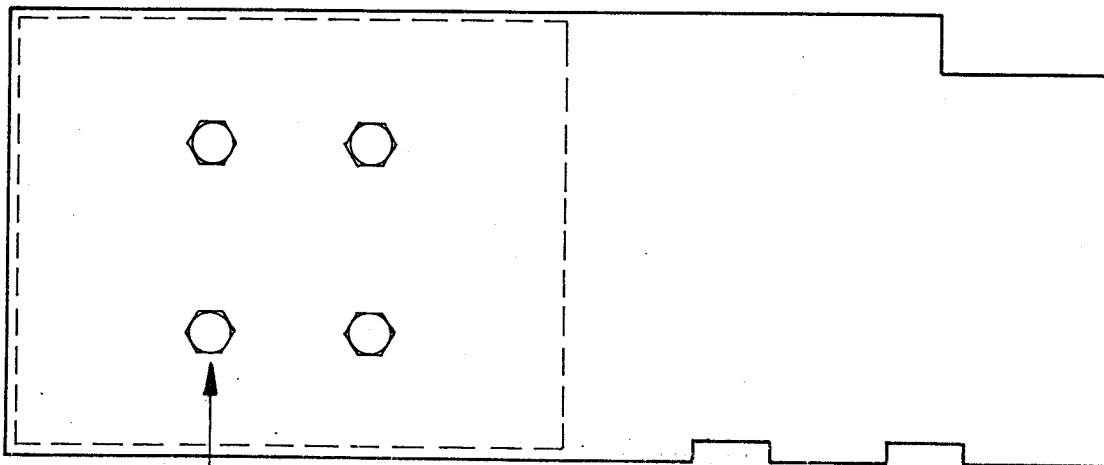
Figure 5.10

PLAN VIEW OF MICROCOMPUTER BOARD IN POSITION



ALIGN MICROCOMPUTER BOX TO  
ENSURE THAT FIXING STUDS  
ARE CENTRALISED ABOUT HOLES.

UNDERSIDE OF INTERFACE BOARD



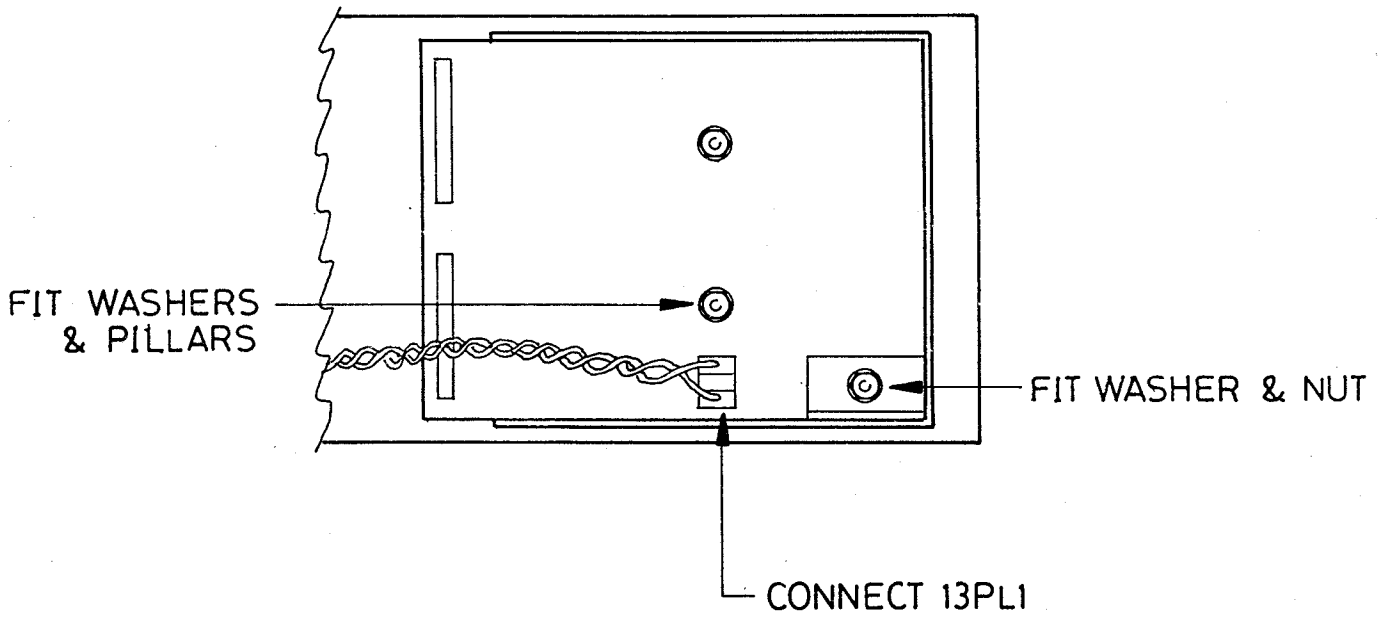
TIGHTEN 4 HEXSCREWS

Microcomputer Alignment (2)

Figure 5.11



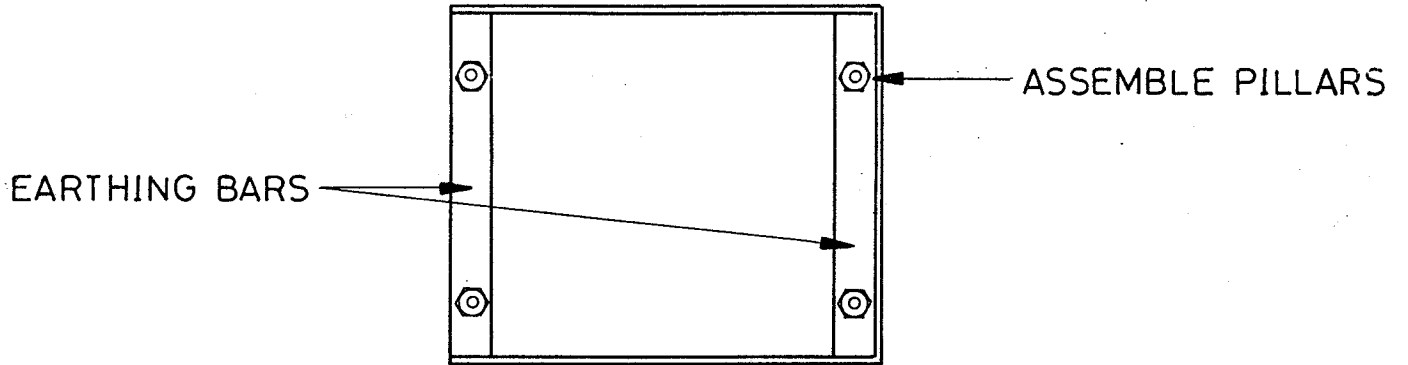
PLAN VIEW OF MICROCOMPUTER BOARD IN POSITION



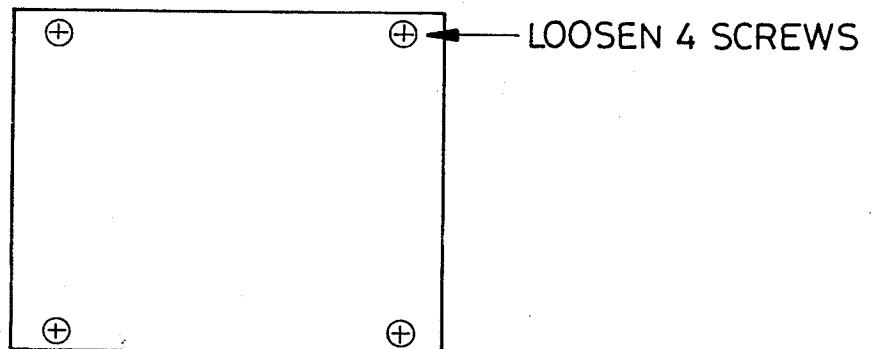
Microcomputer Alignment (3)

Figure 5.12

PLAN VIEW OF BELOW BOARD SCREEN



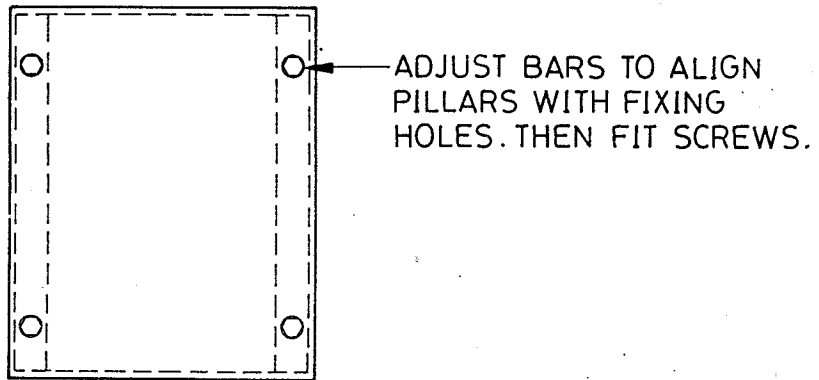
UNDERSIDE VIEW



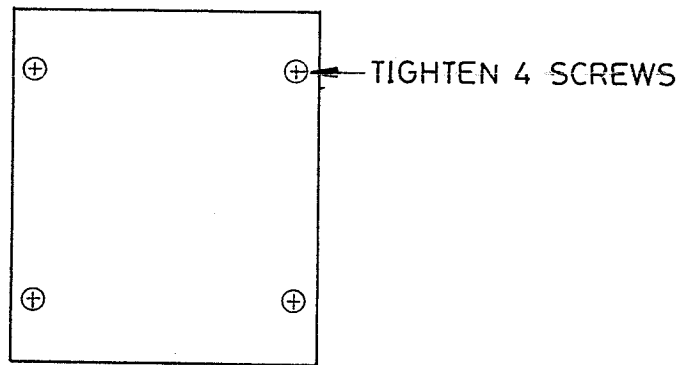
Synthesiser 'Below Board' Screen Alignment (1)

Figure 5.13

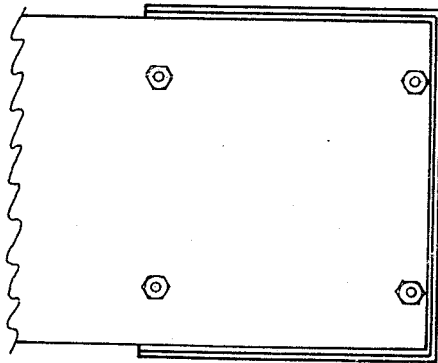
ASSEMBLE COVER



UNDERSIDE VIEW

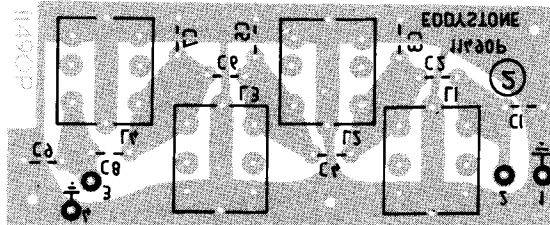
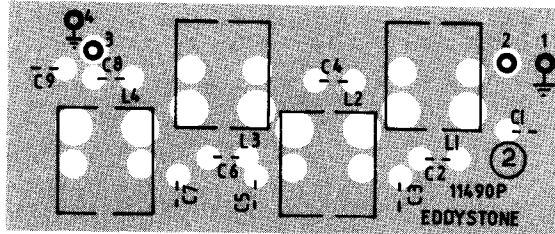


DISASSEMBLE COVER & PILLARS AND  
FIX SYNTH BOARD INTO POSITION.



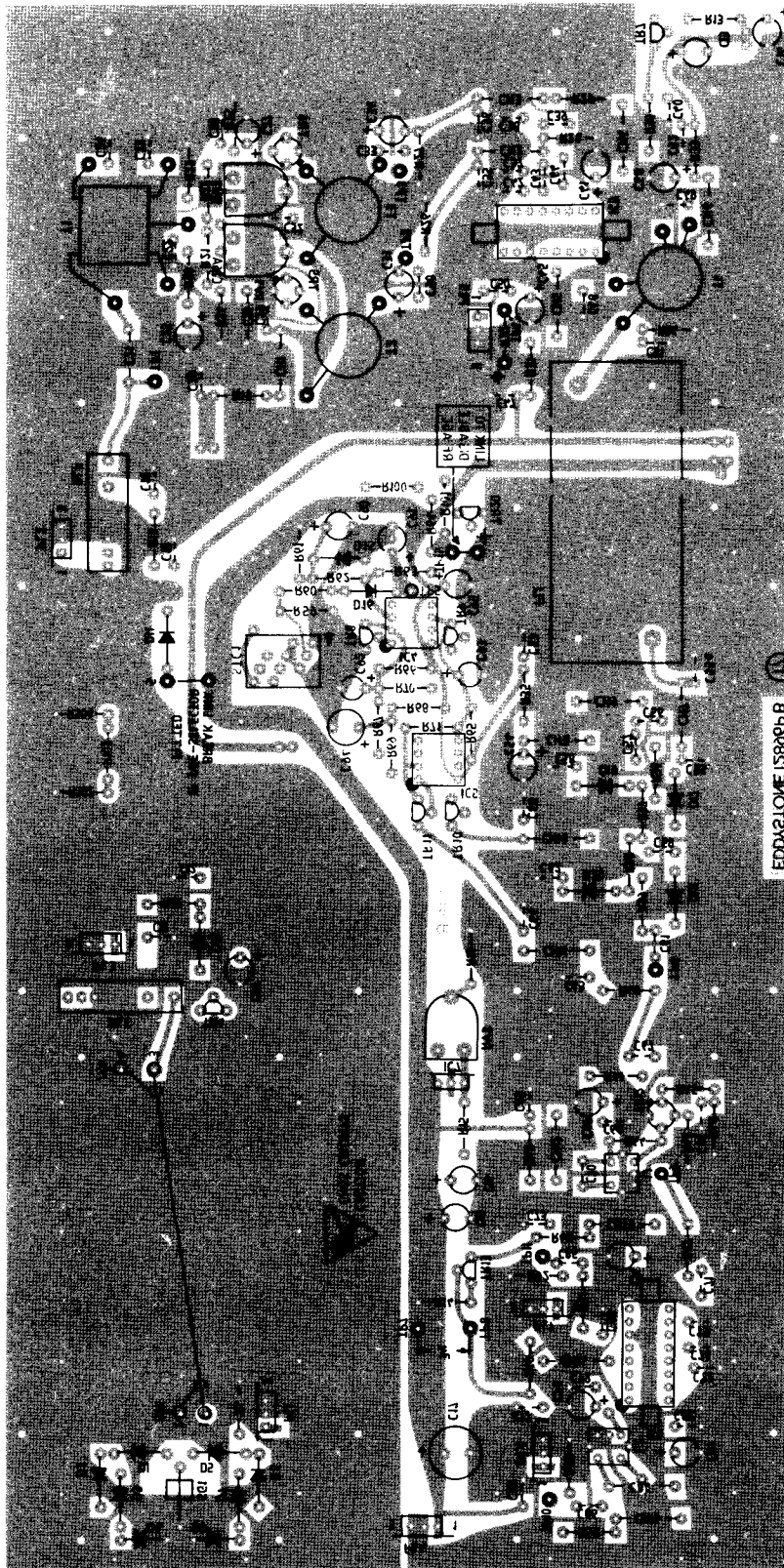
Synthesiser 'Below Board' Screen Alignment (2)

Figure 5.14

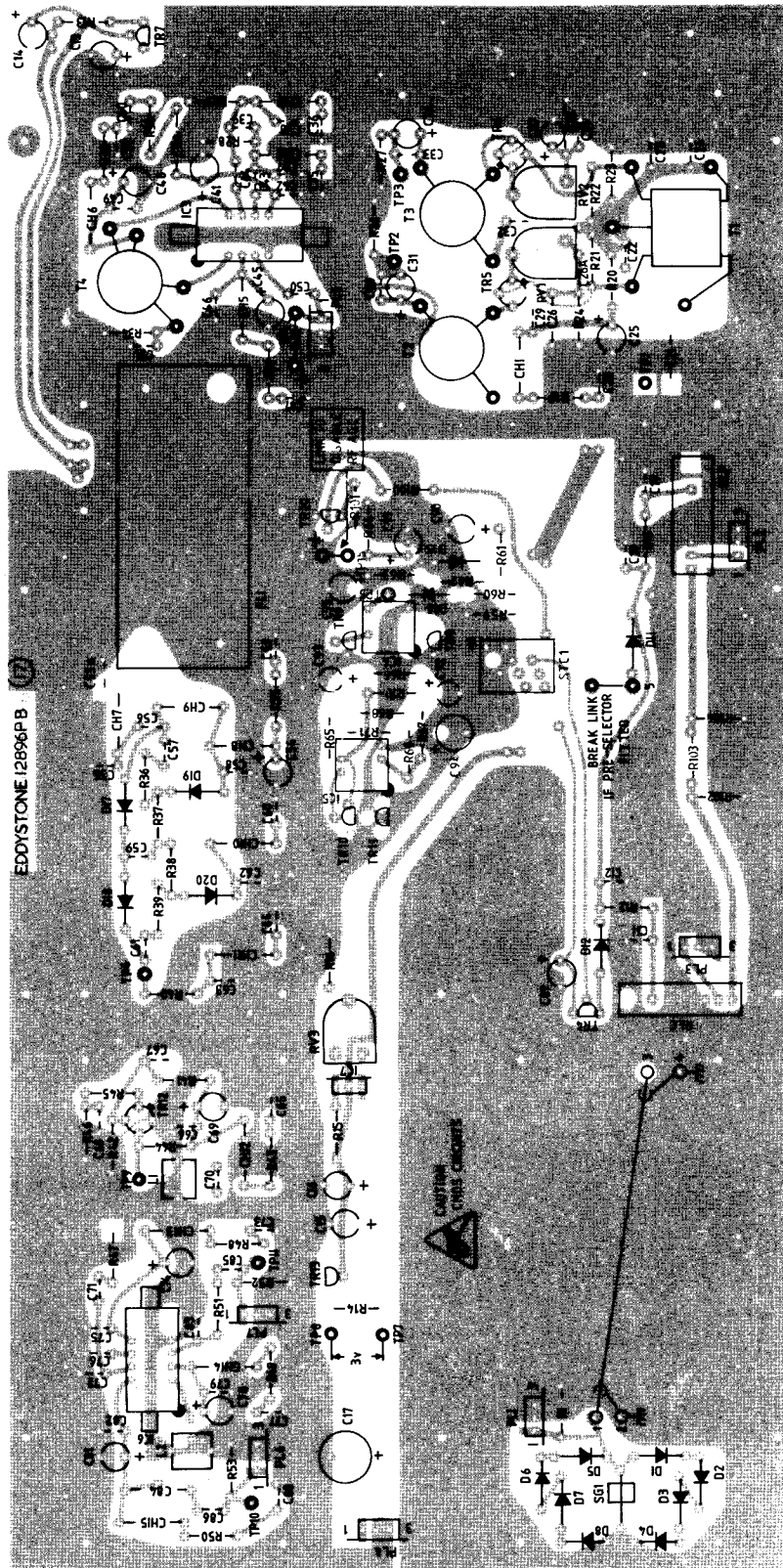


(2) Input Low Pass Filter Board

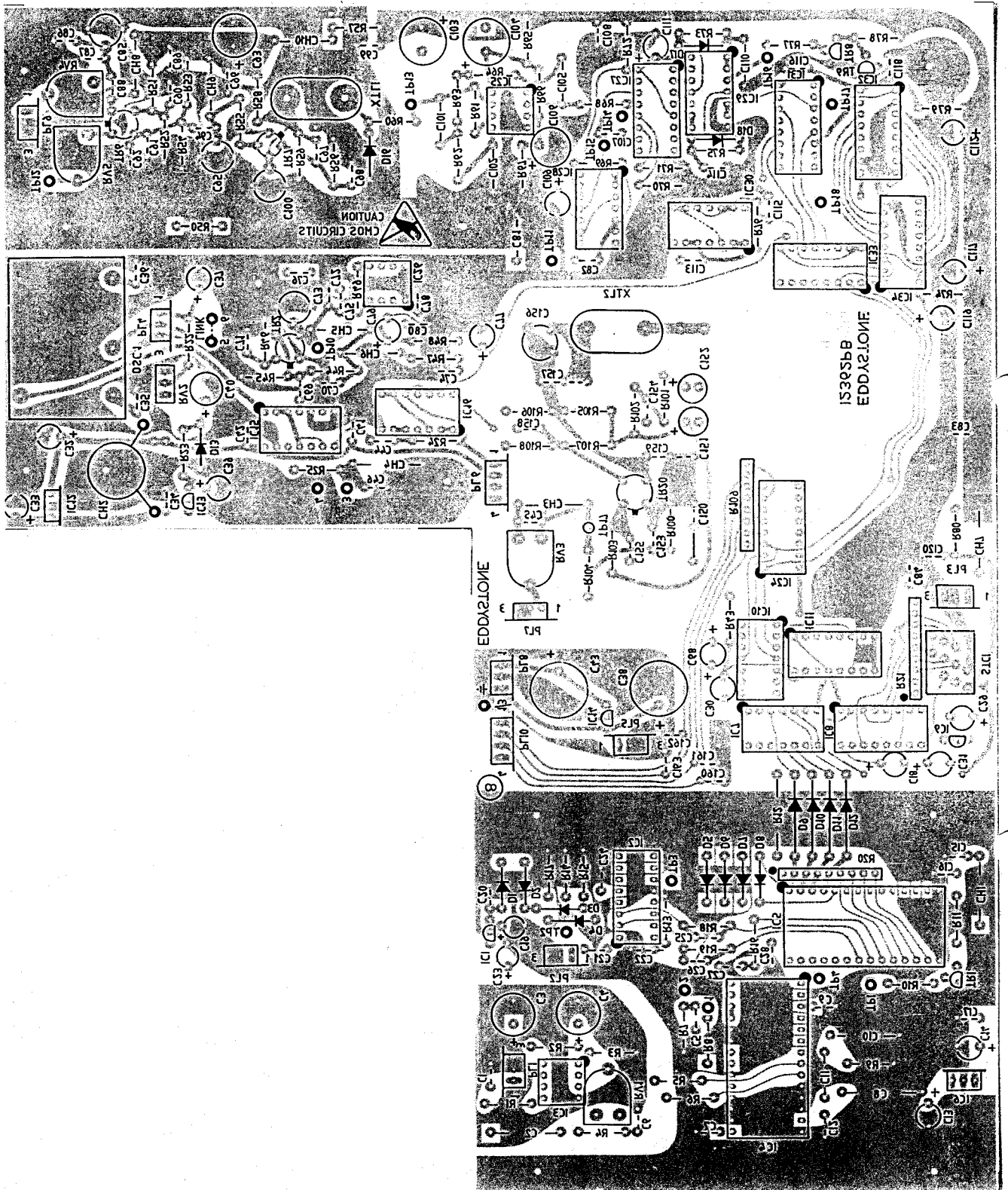
11490P : Both Faces



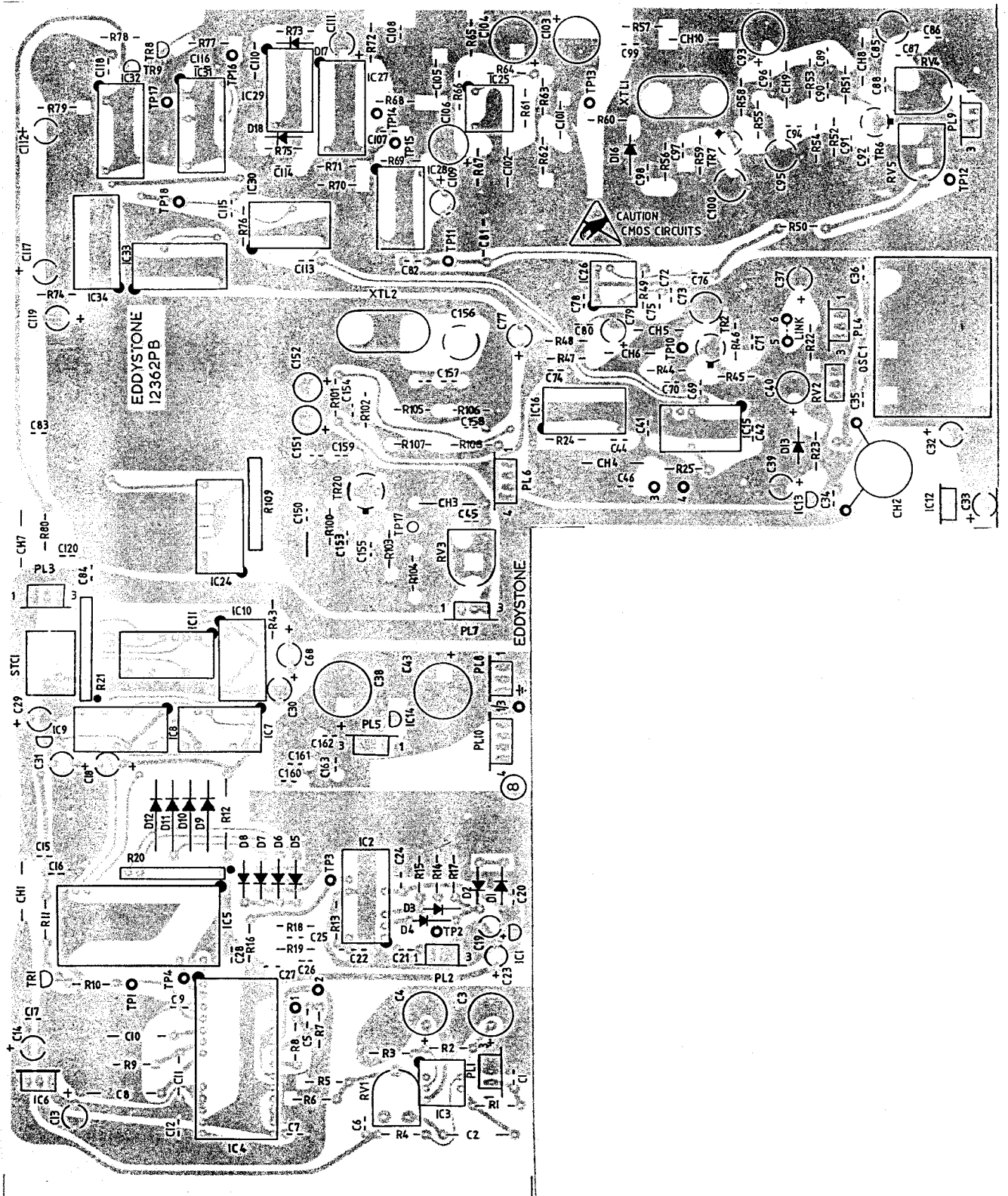
(7) RF and 1st IF Board  
12896P : Wiring Face



(7) RF and 1st IF Board  
 12896P : Component Face



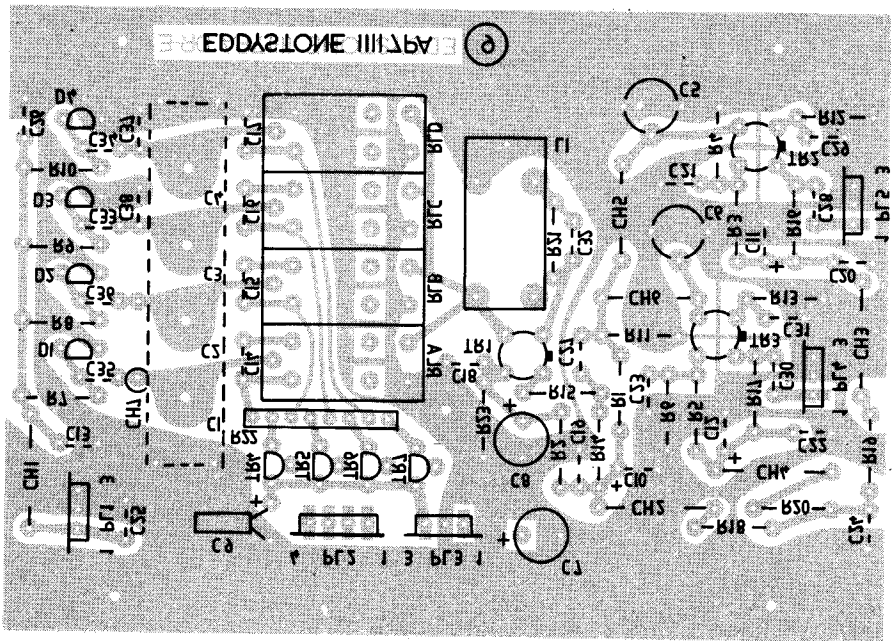
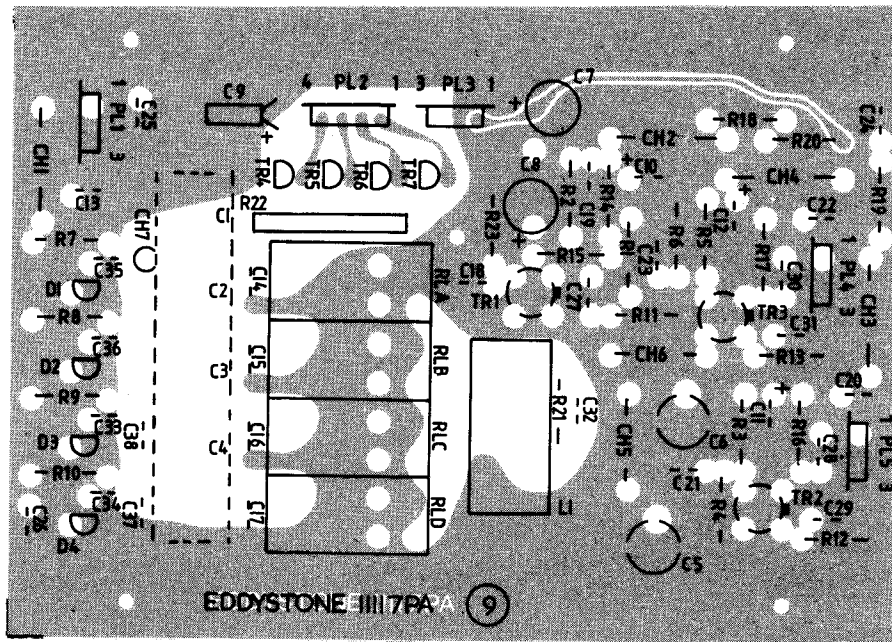
(8) Synthesiser Board  
 12362P : Wiring Face



(8) Synthesiser Board

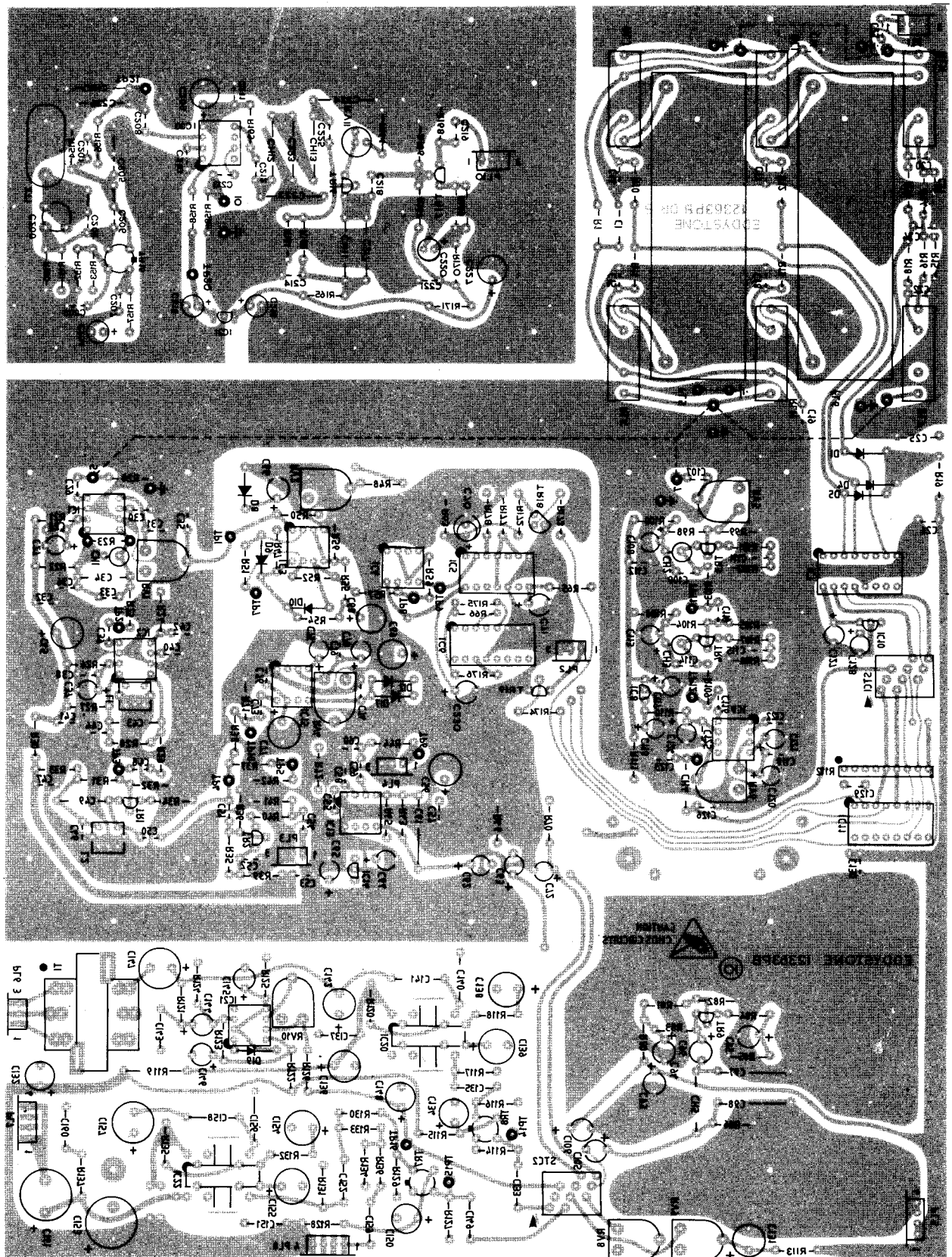
12362P : Component Face





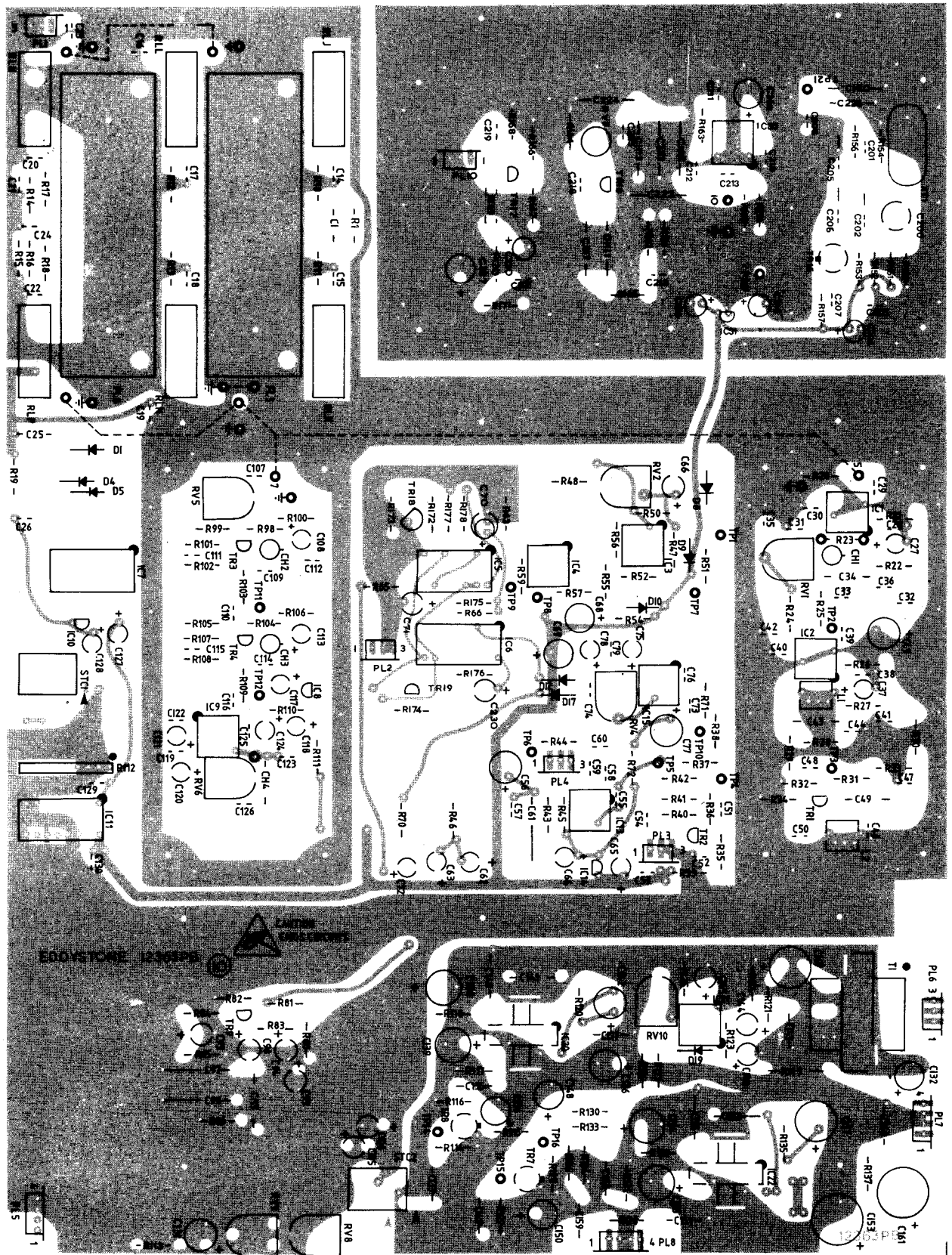
(9) VCO Board

11117P : Both Faces



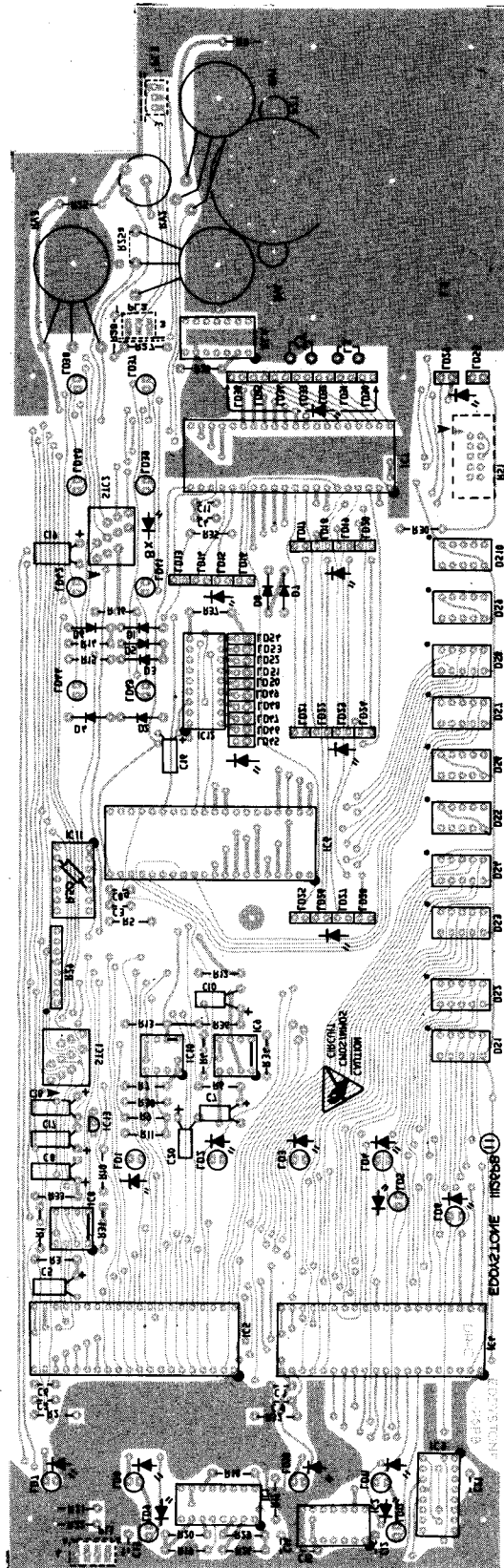
(10) Main IF/Audio Board

12363P : Wiring Face



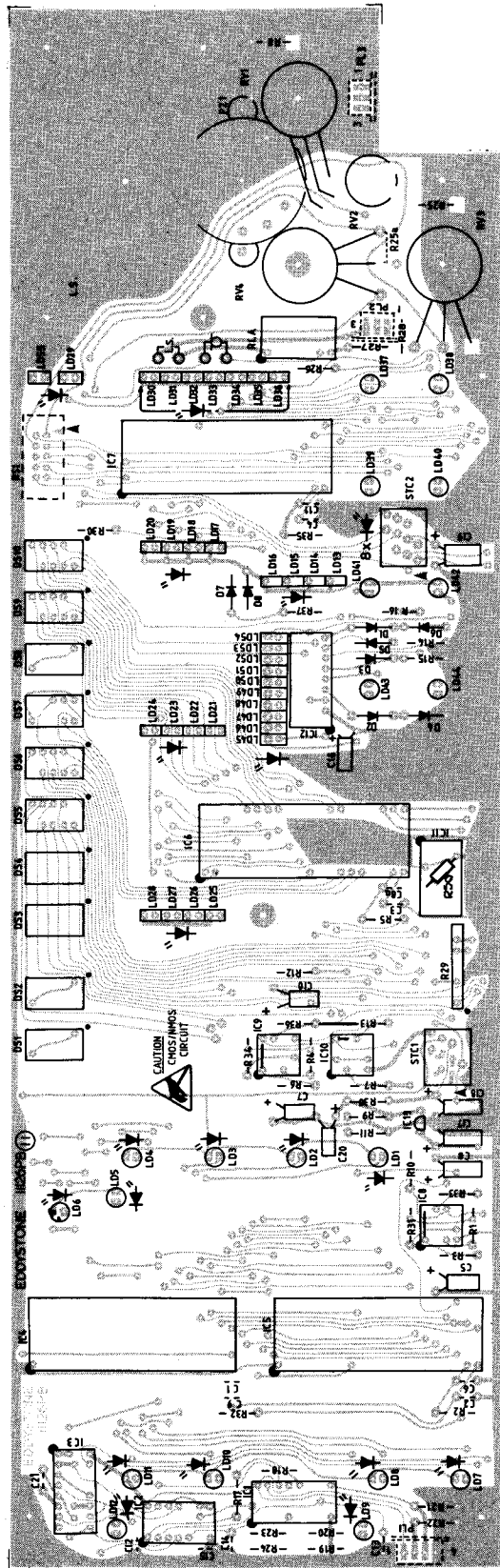
(10) Main IF/Audio Board

12363P : Component Face



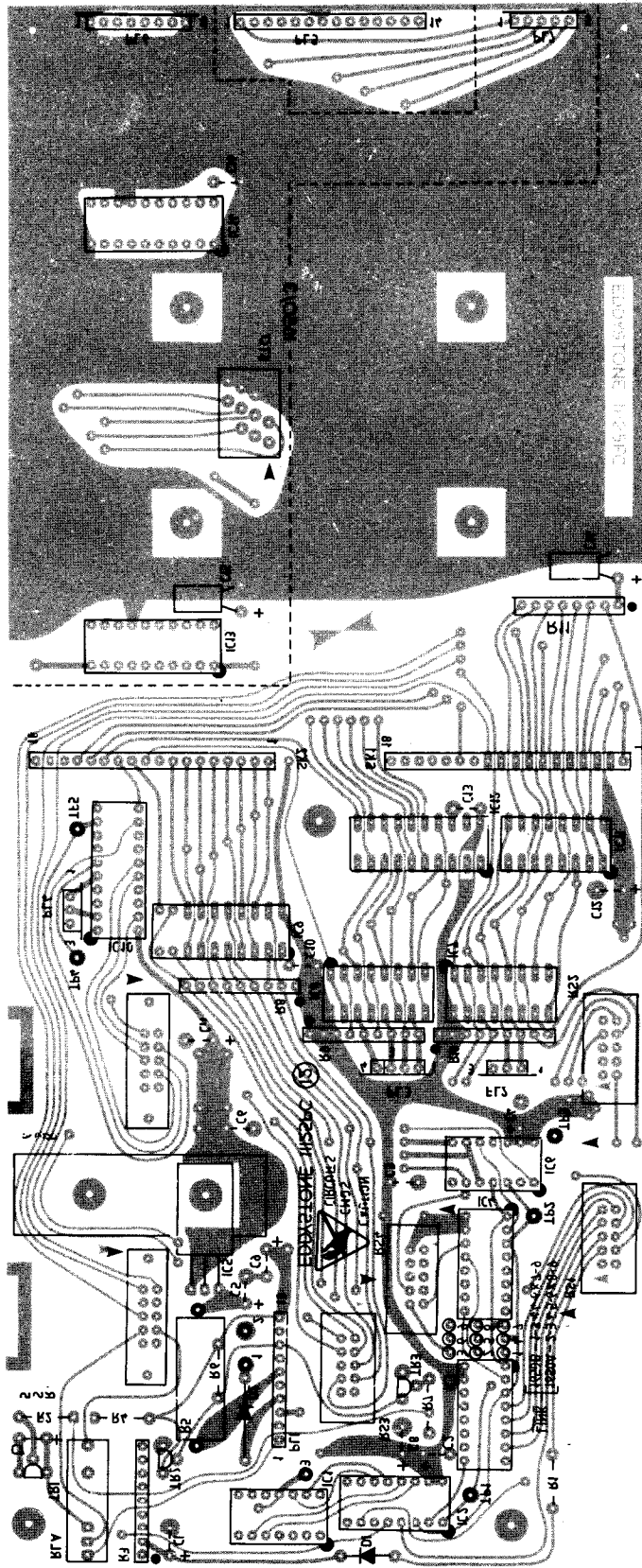
(11) Front Panel Display Board

11126P : Wiring Face

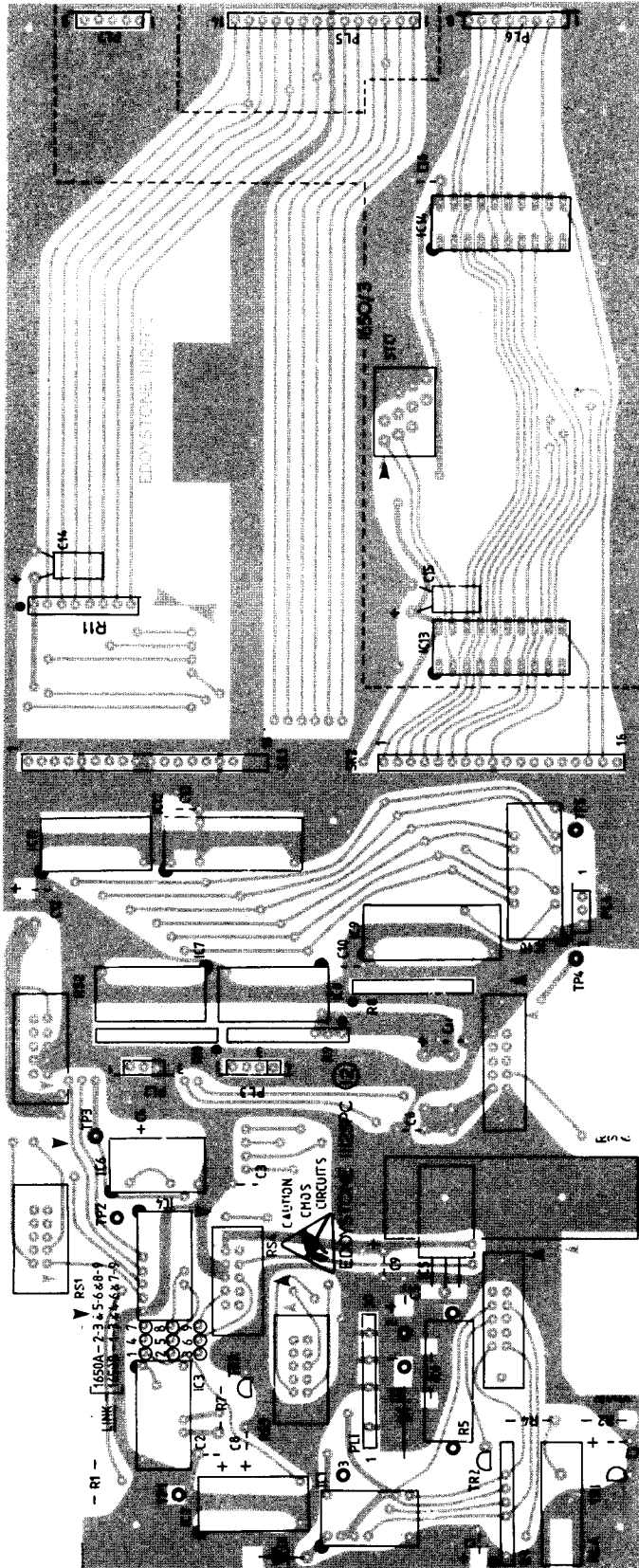


(11) Front Panel Display Board

11126P : Component Face



(12) Interface Board  
 11125P : Wiring Face



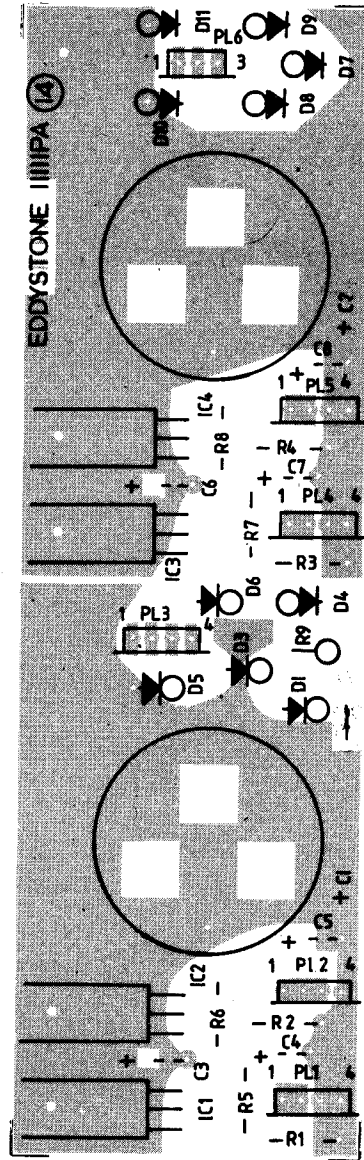
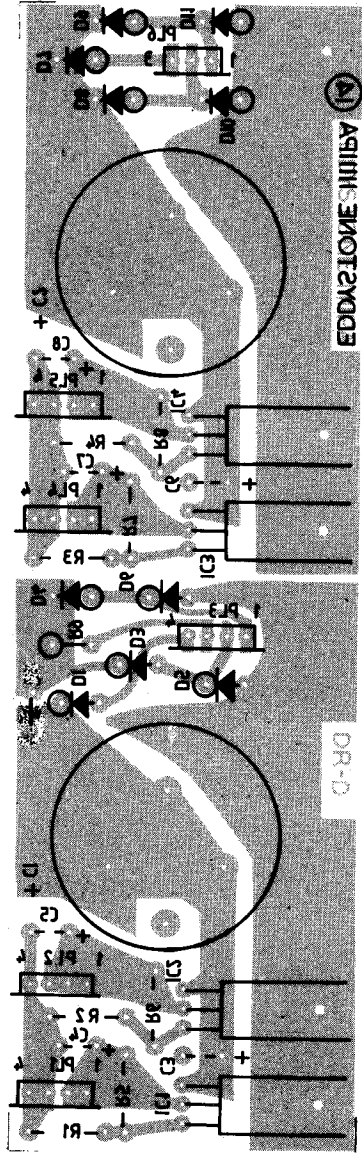
(12) Interface Board

11125P : Component Face



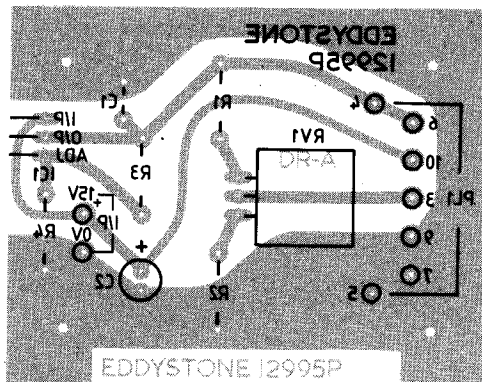






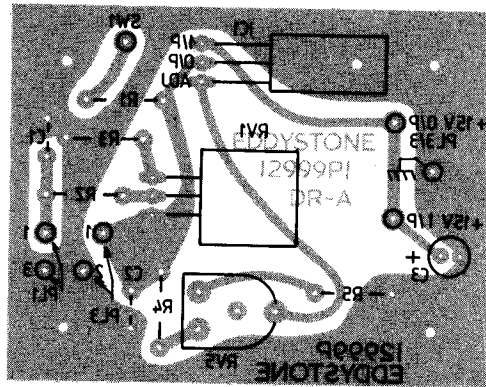
(14) Power Supply Board

11111P : Both Faces



(16) Front Panel Test Box Board

12995P : Wiring Face



(17) VCO Test Box Board

12999P : Wiring Face

APPENDIX B

B.1 EXTENDER CABLES AND FITTINGS (use)

The 1650/6 circuit boards may be operated 'out of the receiver' for maintenance purposes with extender cables. This may be carried out on a 'board at a time' basis as follows:-

Procedure

-----

1) The relevant circuit board is removed from the receiver-see Part 1 Section 5.2 MODULE ACCESS AND REMOVAL.

2) The appropriate Test Lead Terminations, see Figure B.1, are connected to the receiver's cable harness and the Extender Cables attached.

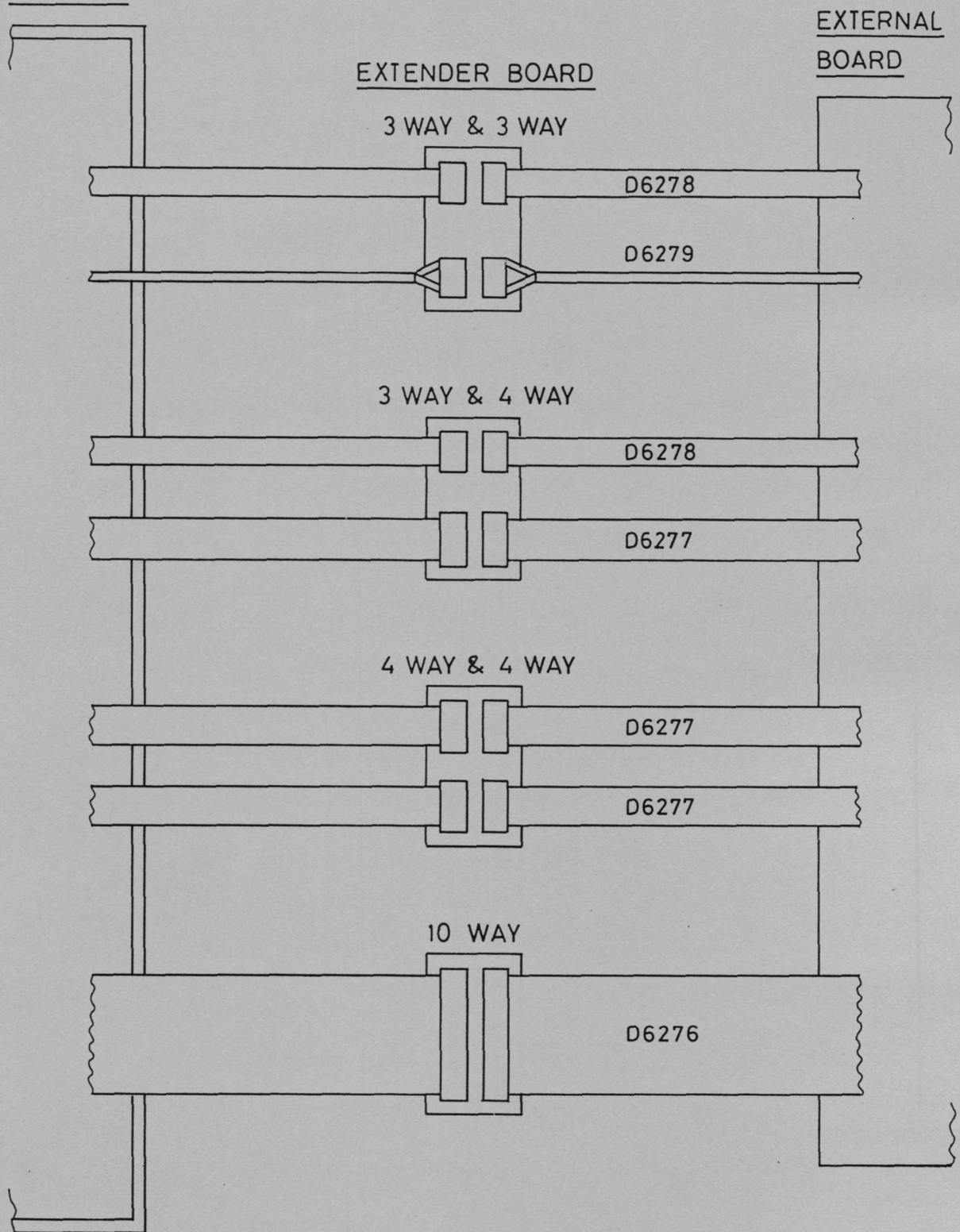
3) The circuit board may now be attached to the Extender Cables and run from the receiver.

N.B. Operation of the 1650/6 with Extender Cables may, in certain circumstances, degrade the performance of the receiver. Performance measurements should always be made with the receiver in operational trim i.e. all covers, screens and earth straps fitted.

B.2 EXTENDER CABLES AND FITTINGS (parts)

Description	Part No.
Ribbon cable extender 10way	1650/6/D6275
10 way to 10 way (123&8 N/C) KK cable	1650/6/D6276
4 way to 4 way KK cable	1650/6/D6277
3 way to 3 way KK cable	1650/6/D6278
Co-ax KK cable	1650/6/D6279
10 way to 10 way KK adaptor	1650/6/D6280
3 way to 3 way KK adaptor	1650/6/D6281
3/4 way to 3/4 way KK adaptor	1650/6/D6282
4/4 way to 4/4 way KK adaptor	1650/6/D6283
3/3 way to 3/3 way KK adaptor	1650/6/D6284

1650/6  
RECEIVER



Test Lead Terminations

Figure B.1